

## CLAIMS (CN1234990A)

1. A ham sausage, characterized in that: said ham sausage comprises raw materials in proportioning by weight as follows:

Sliced lean poultry/cattle meat	40-80 parts	Fish meat	1-20 parts
Animal protein	0.1-30 parts	Vegetable protein	0.1-5 parts
Animal fat	0.5-8 parts	Quality modifier	0.1-5 parts
Seasonings	3-5 parts		

said quality modifier is sodium carboxymethyl cellulosate and composite phosphate;

said sliced lean poultry/cattle meat is one or more selected from the group comprising pork, beef, chicken meat, mutton and donkey meat;

said animal protein is one or more selected from the group comprising serum protein, collagen, lactoalbumin and egg protein, said collagen is pork skin, emulsified pork skin, or hydrolyzed animal protein made of gelatin, lactoalbumin is casein or sodium caseinate, and egg protein is egg white, egg white powder or dry albumen flakes; and

said vegetable protein is one or more selected from the group comprising isolated or concentrated soybean protein, peanut protein and wheat protein.

2. The ham sausage according to claim 1, characterized in that: said seasonings are salt, sugar, gourmet powder, ginger powder, pepper and vitamin C, which take up a proportion by weight of 3.22-4.85 parts, wherein: salt 1.5-2 parts, gourmet powder 0.15-0.7 parts, sugar 1.3-1.5 parts, ginger powder 0.1-0.25 parts, pepper 0.12-0.25 parts, vitamin C 0.05-0.15 parts; said quality modifier is 0.1-3 parts, animal fat 0.1-10 parts, vegetable protein 0.5-5parts, said animal fat 0.5-8 parts, and an addition of carrageenin of 0.5-0.9 parts.

3. The ham sausage according to claim 2, characterized in that: quality modifier is 0.7-1.4 parts, wherein sodium carboxymethyl cellulosate is 0.4-0.9 parts, and composite phosphate is 0.3-0.5 parts.

4. The ham sausage according to claim 3, characterized in that: said

Sliced lean pork	50-60 parts	Fish meat	10 parts
Egg protein	1.6 parts	Sodium caseinate	0.85 parts
Carragageenin	0.5 parts	Emulsified pork skin	1 part
Vegetable protein	2-2.5 parts	Pig fat as said animal fat	8 parts
Sodium carboxymethyl cellulosate	0.6 parts	Composite phosphate	0.3-0.5 parts
Sodium nitrite (available on market)	0.018 parts	Vitamin C	0.12 parts
Salt	2.0 parts	Sugar	1.2 parts
Gourmet powder	0.12 parts	Ginger powder	0.15 parts
Pepper	0.2 parts	Water	14 parts

5. The ham sausage according to claim 1, characterized in that: said

Sliced lean chicken meat	40 parts	Fish meat	15 parts
Lactoalbumin	2 parts	Sodium carboxymethyl cellulosate	0.5 parts
Vegetable protein	1.8 parts	Pig fat as said animal fat	4 parts
Seasonings	4 parts		

6. A process for the production of the ham sausage according to claim 1, characterized in comprising the following steps:

(1) pre-processing:

pre-processing the sliced lean cattle/poultry meat by removing connective tissues, blood sludges, bone fragments, oil, lymphatic tissues and fats, and dice the meat

(2) pickling:

mixing the above said diced lean meat with salt, sodium nitrite and composite phosphate added into it, and then pickling the mixture for

longer than 24 hours at 0-4°C of ambient temperature;

(3) emulsifying:

① preparing the emulsified fat

mixing animal fat, ice water and vegetable fat at a proportion of 4:4:1 by weight, and emulsifying them in a emulsifying machine or chopping-mixing machine; in the course of emulsification, said animal fat is added, and composite phosphate can also be added; ice water should also be added during emulsification, so that the temperature of the materials does not surpass 10-12°C; emulsification stops when the emulsified fat is glossy, smooth, and not sticky to one's hand, then the fat is chilled at 0-4°C in a pickling chamber for future use;

② emulsifying fish meat

mincing fish meat with a chopping-mixing machine; when the minced fish meat lumps, adding composite phosphate that takes up 0.5-0.7% of the amount of the fish meat and salt that takes up 1-3% of the amount of the fish meat; continuing the emulsification so that the minced fish meat becomes homogeneously paste-like emulsified fat; ice water should be added during emulsification, so that the temperature of the fish meat does not surpass 10-12°C, and the suitable amount of ice water used should not surpass the weight of the fish meat; emulsification stops when the materials becomes paste-like;

(4) chopping-mixing

subjecting the pickled lean meat, emulsified fat, emulsified fish meat, seasonings and other auxiliary materials into the chopping-mixing machine for being minced and mixed; ice water is added during chopping-mixing, so that the temperature of the materials does not surpass 10-12°C; chopping-mixing stops when the minced meat is glossy, smooth, and not sticky to one's hand, then the meat is kept for future use;

(5) stuffing

filling the chopped-mixed mixture of minced meat into a casing which is to be sealed; said casing is PVDC casing;

(6) sterilizing

heating the sealed minced meat at 100-121°C until all mince meat is

cooked and sterilized; said heating lasts for 15-30 minutes;

(7) cooling

cooling down the sterilized sealed minced meat to room temperature in a compelling manner.

7. The process according to claim 6 for the production of a ham sausage, characterized in that: during pre-processing, the sliced lean meat is grated into meat granules with a meat grinder equipped with a 12-15mm pore plate, and the pickling process lasts for 12-48 hours.

8. The process according to claim 6 for the production of a ham sausage, characterized in that: the weight of water added during the preparation of the emulsified fat can take up 50% of the total amount of water in the formula, and the weight of water added during the emulsification of fish meat can take up 10% of the total amount of water in the formula.

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权利要求书 2 页 说明书 7 页 附图页数 0 页

[54]发明名称 一种火腿肠及其制作方法

[57]摘要

本发明涉及一种火腿肠及其制作方法。其原料及其重量配比为:畜禽分割瘦肉 40—80 份,鱼肉 1—20 份,动物蛋 0.1—30 份,植物蛋白 0.1—5 份,动物脂肪 0.5—8 份,品质改良剂 0.1—5 份,调味品 3—5 份。本火腿肠完全不使用淀粉,通过几种原辅料的加入,其恰当的配比和与之相配合的工艺使生产出的本火腿肠鲜嫩多汁、细嫩柔滑、醇香可口,在使其具有了低温肉制品的口感味道和高营养的特点的同时,又具有普通高温肉制品可长期贮存、食用方便的特点,成为一种高蛋白、低脂肪、细嫩柔滑、食而不腻的高温肉制品,满足人们对食品营养、方便和经济的需求。

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1、一种火腿肠，其特征在于：包括有原料及其重量配比为：

畜禽分割瘦肉	40 - 80 份	鱼肉	1 - 20 份
动物蛋白	0.1 - 30 份	植物蛋白	0.1 - 5 份
动物脂肪	0.5 - 8 份	品质改良剂	0.1 - 5 份
调味品	3 - 5 份		

所述品质改良剂为羧甲基纤维素钠和复合磷酸盐；

所述畜禽分割瘦肉是猪肉、牛肉、鸡肉、羊肉和驴肉中的一种或多种；

所述动物蛋白是血清蛋白、胶原蛋白、乳清蛋白和卵蛋白中的一种或多种，  
所述胶原蛋白为猪皮、乳化猪皮，或用明胶制成的水解动物蛋白，乳清蛋白为酪蛋白或酪氨酸钠，卵蛋白为蛋清、蛋清粉或干蛋白片；

所述植物蛋白是分离或浓缩的大豆蛋白、花生蛋白、小麦蛋白中的一种或多种。

2、根据权利要求 1 所述的火腿肠，其特征在于：所述调味品是盐、糖、味精、姜粉、胡椒和维生素 C，其配比为 3.22 - 4.85 份，其中：盐 1.5 - 2 份，味精 0.15 - 0.7 份，糖 1.3 - 1.5 份，姜粉 0.1 - 0.25 份，胡椒 0.12 - 0.25 份，维生素 C 0.05 - 0.15 份；所述品质改良剂为 0.1 - 3 份，动物蛋白为 0.1 - 10 份，植物蛋白为 0.5 - 5 份，所述动物脂肪为 0.5 - 8 份，另外，加入卡拉胶 0.5 - 0.9 份。

3、根据权利要求 2 所述的火腿肠，其特征在于：品质改良剂为 0.7 - 1.4 份，其中，羧甲基纤维素钠 0.4 - 0.9 份，复合磷酸盐 0.3 - 0.5 份。

4、根据权利要求 3 所述的火腿肠，其特征在于：所述

猪分割瘦肉	50 ~ 60 份	鱼肉	10 份
卵蛋白	1.6 份	酪氨酸钠	0.85 份
卡拉胶	0.5 份	乳化猪皮	1 份
植物蛋白	2 ~ 2.5 份	所述动物脂肪为猪脂肪	8 份
羧甲基纤维素钠	0.6 份	复合磷酸盐	0.3 - 0.5 份
亚硝酸钠（市售）	0.018 份	维生素 C	0.12 份
盐	2.0 份	糖	1.2 份
味精	0.12 份	姜粉	0.15 份
胡椒	0.2 份	水	14 份

5、根据权利要求 1 所述的火腿肠，其特征在于：所述

鸡分割瘦肉	40 份	鱼肉	15 份
乳清蛋白	2 份	羧甲基纤维素钠	0.5 份
植物蛋白	1.8 份	所述动物脂肪为猪脂肪	4 份
调味品	4 份		

6、如权利要求 1 所述的火腿肠的制作工艺，其特征在于：

## (1) 整理:

将畜禽分割瘦肉进行修整, 去掉结缔组织、瘀血、碎骨、油、淋巴组织和肥肉, 然后切块;

## (2) 腌制:

5 在上述切好的瘦肉中加入食盐、亚硝酸钠和复合磷酸盐搅拌, 然后置于 0 - 4 °C 的环境温度下腌制 24 小时以上;

## (3) 乳化:

## ① 乳化脂的制备

10 先将动物脂肪、冰水和植物蛋白按 4: 4: 1 的重量比配制, 然后将其置于乳化机或斩拌机中进行乳化, 在乳化过程中加入所述动物蛋白, 还可以加入复合磷酸盐, 在乳化过程中应加入冰水, 以使物料的温度不超过 10 - 12 °C, 至乳化脂光洁润滑不粘手时乳化停止, 入 0 - 4 °C 腌制间冷却备用。

## ② 鱼肉的乳化

15 用斩拌机先将鱼肉斩至鱼糜, 当其凝结成团时加入鱼肉量的 0.5 ~ 0.7 % 的复合磷酸盐和 1 - 3 % 的食盐, 继续乳化使其成为均匀的糊状乳化脂, 在乳化过程中应加入冰水, 以使鱼肉的温度保持在 10 - 12 °C 以内, 冰水的用量不超过鱼肉的重量为宜, 待物料成为糊状时停止乳化;

## (4) 斩拌:

20 将腌制好的瘦肉、乳化脂、乳化好的鱼肉、调味品和其它辅料加入斩拌机中斩拌成糜状; 在斩拌过程中加入冰水, 以使物料的温度保持在 10 - 12 °C 以内, 待肉糜光洁润滑不粘手时停止待用;

## (5) 填充、

将斩拌好的肉糜混合物填充于肠衣内密封; 所述肠衣为 PVDC 肠衣;

## (6) 杀菌:

25 将密封好的肉糜在 100 - 121 °C 高温下加热至全部肉糜熟且无菌; 为 15 - 30 分钟;

## (7) 冷却:

将杀菌后的密封肉糜强制冷却至室温。

30 7、根据权利要求 6 所述的火腿肠的制作方法, 其特征在于: 在整理时, 切好的瘦肉用装置有 12 ~ 15mm 孔板的绞肉机绞制成肉粒, 腌制时间是 12 - 48 小时;

8、根据权利要求 6 所述的火腿肠的制作方法, 其特征在于: 乳化脂的制备中加入水分的重量可为配方中总水量的 50 %, 鱼肉乳化时加入的水量可为配方中水的总量的 10 %。